

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-3. (Canceled)

4. (Previously Presented) A mobile communication system that allows access to a single directory information tree from a plurality of directory servers corresponding to a plurality of sites in a mobile communication network, and comprises a plurality of authentication controllers provided in the respective sites for authenticating mobile communication terminals that request a service at each site, and wherein

each of the plurality of authentication controllers comprises:

search request generation means that acquires identification information on a mobile communication terminal and generates a search request directed to the directory server when a request for a service is received from the mobile communication terminal;

search request transmission means that transmits the search request generated by the search request generation means to the directory server in the corresponding sites; and

authentication processing means that determines whether or not to permit provision of the service to the mobile communication terminal based on a search result acquired from the directory server, and wherein

each of the plurality of servers comprises:

storage means that stores identification information given to mobile communication terminals for receiving a service, the mobile communication terminals being registered with the site corresponding to the directory server;

identification information detection means that detects, from the storage means, the identification information on a mobile communication terminal specified in the search request from the authentication controller or in the search request redirected from a directory server corresponding to another site;

search request redirection means that redirects the search request from the authentication controller to a directory server located above or below in the directory information tree among the directory servers corresponding to other sites when the identification information on the mobile communication terminal is not detected by the identification information detection means; and

search result provision means that provides a search result indicating success in detection of the identification information to the authentication controller when the identification information on the mobile communication terminal is detected in the other directory server to which the search request has been redirected by the search request redirection means, or in the identification information detection means,

wherein the authentication processing means operates to determine to permit provision of the service to the mobile communication terminal when the search result indicating success in detection of the identification information on the mobile communication terminal is acquired from the directory server, and

wherein each directory server comprises reference information storage means that stores address information on another directory server located above or below in the directory information tree; and

the search request redirection means operates to refer to the address information stored in the reference information storage means and to redirect the search request to the other directory server located above or below in the directory information tree.

6. (Previously Presented) A mobile communication system that allows access to a single directory information tree having a hierarchical tree structure from a plurality of server apparatuses, wherein each of the plurality of server apparatuses comprises:

entry management means that stores entries in a directory provided in a subtree in the directory information tree, an attribute value of each entry being identification information given to any one of the mobile communication terminals which are able to provide a service in a mobile communication network;

identification information detection means that detects the identification information on a mobile communication terminal among the attribute values of the entries stored in the directory by the entry management means;

search request transmission means that transmits a predetermined search request to another server apparatus located above or below in the directory information tree when the identification information on the mobile communication terminal is not detected by the identification information detection means; and

service provision control means that allows provision of the service to the mobile communication terminal when the identification information on the mobile communication terminal is detected in the other server apparatus to which the search request has been transmitted by the search request transmission means, or in the identification information detection means, and that prohibits provision of the service to the mobile communication terminal when no other server apparatus is located above or below in the directory information tree or when the identification information on the mobile communication terminal is not detected in the other server apparatus to which the search request has been transmitted by the search request transmission means,

wherein each server apparatus comprises reference information storage means that stores address information on another server apparatus located above or below in the directory information tree; and

wherein the search request transmission means operates to refer to the address information stored in the reference information storage means and to transmit the

search request to the other server apparatus located above or below in the directory information tree.

7. (Canceled)

8. (Previously Presented) A mobile communication control method that allows access to a single directory information tree from a plurality of server apparatuses,

wherein each of the plurality of server apparatuses performs a sequence of processing comprising:

an entry management step for storing entries in a directory provided in a subtree in the directory information tree, an attribute value of each entry being identification information given to any one of the mobile communication terminals which are able to provide a service in a mobile communication network;

an identification information detection step for detecting the identification information on a mobile communication terminal among the attribute values of the entries stored in the directory at the entry management step;

a search request transmission step for transmitting a predetermined search request to another server apparatus located above or below in the directory information tree when the identification information on the mobile communication terminal is not detected at the identification information detection step;

a service provision permission step for allowing provision of the service to the mobile communication terminal when the identification information on the mobile communication terminal is detected in the other server apparatus to which the search request has been transmitted at the search request transmission step or detected at the identification information detection step; and

a service provision prohibition step for prohibiting provision of the service to the mobile communication terminal when no other server apparatus is located above or below in the directory information tree at the search request transmission step or

when the identification information on the mobile communication terminal is not detected in the other server apparatus to which the search request has been transmitted at the search request transmission step,

wherein each server apparatus comprises reference information storage unit that stores address information on another server apparatus located above or below in the directory information tree, and

wherein the search request transmission step performs an operation of referring to the address information stored in the reference information storage unit and to transmit the search request to the other server apparatus located above or below in the directory information tree.

9. (Previously Presented) A computer readable medium which stores a computer program for allowing access to a single directory information tree from a plurality of server apparatuses, the computer program causing each of the plurality of server apparatuses to perform a sequence of processing comprising:

an entry management step for storing entries in a directory provided in a subtree in the directory information tree, an attribute value of each entry being identification information given to any one of the mobile communication terminals which are able to provide a service in a mobile communication network;

an identification information detection step for detecting the identification information of a mobile communication terminal among the attribute values of the entries stored in the directory at the entry management step;

a search request transmission step for transmitting a predetermined search request to another server apparatus located above or below in the directory information tree when the identification information on the mobile communication terminal is not detected in the identification information detection step;

a service provision permission step for allowing provision of the service to the mobile communication terminal when the identification information on the mobile

communication terminal is detected in the other server apparatus to which the search request has been transmitted at the search request transmission step or detected at the identification information detection step; and

a service provision prohibition step for prohibiting provision of the service to the mobile communication terminal when no other server apparatus is located above or below in the directory information tree at the search request transmission step or when the identification information on the mobile communication terminal is not detected at the other server apparatus to which the search request has been transmitted at the search request transmission step,

wherein each server apparatus comprises reference information storage unit that stores address information on another server apparatus located above or below in the directory information tree; and

wherein the search request transmission step performs an operation of referring to the address information stored in the reference information storage unit and to transmit the search request to the other server apparatus located above or below in the directory information tree.